

AMENDMENTS TO THE CLAIMS

The following is a complete listing of the claims, which replace all previous versions and listings of the claims.

1. (currently amended) A centrifugal blower wheel for a heating, ventilation and air conditioning (HVAC) blower unit, comprising:

a first blade support;

a second blade support offset from said first blade support by a distance along a central axis of rotation; and

a plurality of S-shaped blades ~~disposed~~ extending between and coupled to said first and said second blade supports, wherein each of said S-shaped blades has a trailing edge bent in a forward direction with respect to a defined direction of rotation of the wheel, and the blade supports extend beyond the trailing edge of the S-shaped blade.

2. (original) The blower wheel of claim 1, wherein a leading edge of said S-shaped blades is inwardly curved with respect to the center of the wheel.

3. (original) The blower wheel of claim 2, wherein said trailing edge is outwardly curved with respect to the center of the wheel.

4. (original) The blower wheel of claim 1, wherein said plurality of S-shaped blades comprises about 12 to about 18 individual blades.

5. (original) The blower wheel of claim 1, wherein said plurality of S-shaped blades comprises 16 individual blades.

6. (currently amended) An integrated heating, ventilation and air conditioning (HVAC) blower apparatus, comprising:
a centrifugal blower wheel disposed within a housing;
an electronically commutated motor (ECM) in operative communication with said centrifugal blower wheel, said ECM extending at least partially through a first inlet cone disposed in a first side of said housing; and
said centrifugal blower wheel further comprising:
a first blade support;
a second blade support; and
a plurality of S-shaped blades ~~disposed~~ extending between and coupled to said first and said second blade supports, wherein each of said S-shaped blades has a trailing edge bent in a forward direction with respect to a defined direction of rotation of said wheel, and the blade supports extend beyond the trailing edge of the S-shaped blade.

7. (original) The HVAC blower apparatus of claim 6, wherein a leading edge of said S-shaped blades is inwardly curved with respect to the center of the wheel.

8. (original) The HVAC blower apparatus of claim 7, wherein said trailing edge is outwardly curved with respect to the center of the wheel.

9. (original) The HVAC blower apparatus of claim 6, wherein said plurality of S-shaped blades comprises about 12 to about 18 individual blades.

10. (original) The HVAC blower apparatus of claim 6, wherein said plurality of S-shaped blades comprises 16 individual blades.

11. (currently amended) The HVAC blower apparatus of claim 6, wherein said inlet cone has a ~~minimum diameter at about a midpoint thereof~~ a central axis, an

axial length, and a diameter that generally decreases from opposite ends of the axial length toward an intermediate region along the axial length.

12. (currently amended) A heating, ventilation and air conditioning (HVAC) system for heating/cooling a space, comprising:

a system controller;

at least one of a heating and a cooling source;

an integrated blower apparatus in communication with said system controller; and

an airflow path for circulating air through the space;

said integrated blower apparatus further comprising:

a centrifugal blower wheel disposed within a housing, said centrifugal blower wheel further including a first blade support, a second blade support offset from said first blade support by a distance along a central axis of rotation, and a plurality of S-shaped blades disposed extending between and coupled to said first and said second blade supports, wherein each of said S-shaped blades has a trailing edge bent in a forward direction with respect to a defined direction of rotation of said wheel, and the blade supports extend beyond the trailing edge of the S-shaped blade; and

an electronically commutated motor (ECM) in operative communication with said centrifugal blower wheel, said ECM extending at least partially through a first inlet cone disposed in a first side of said housing.

13. (original) The HVAC blower system of claim 12, wherein a leading edge of said S-shaped blades is inwardly curved with respect to the center of the wheel.

14. (original) The HVAC blower system of claim 13, wherein said trailing edge is outwardly curved with respect to the center of the wheel.

15. (original) The HVAC blower system of claim 12, wherein said plurality of S-shaped blades comprises about 12 to about 18 individual blades.

16. (original) The HVAC blower system of claim 12, wherein said plurality of S-shaped blades comprises 16 individual blades.

17. (currently amended) The HVAC blower system of claim 12, wherein said inlet cone has a ~~minimum diameter at about a midpoint thereof~~ a central axis, an axial length, and a diameter that generally decreases from opposite ends of the axial length toward an intermediate region along the axial length.

18. (new) The HVAC blower apparatus of claim 6, wherein the first and second blade supports are offset by a distance along a central axis of rotation.

19. (new) A system, comprising:
a heating ventilation and air conditioning (HVAC) blower, comprising:
a first blade support;
a second blade support offset from the first blade support by a distance along a central axis of rotation; and
a plurality of S-shaped blades extending between and coupled to the first and second blade supports, wherein each of the S-shaped blades has a trailing edge bent in a forward direction with respect to a defined direction of rotation, and the trailing edge is generally free from the first and second blade supports.